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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/807,374

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Yutaka Ota

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EXAMINER

VO, TED T

ART UNIT

PAPER NUMBER

2191

NOTIFICATION DATE

DELIVERY MODE

09/17/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/807,374	Applicant(s) OTA, YUTAKA	
	Examiner TED T. VO	Art Unit 2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the set of claims filed on 04/28/2008.

Claims 1-20 are pending in the application.

Response to Arguments

2. This is in response to the Applicants' argument remarks filed on 04/28/2008. Claims 1-12, and 20 have been subjected to 35 USC 101. To support to these claims, in the specification, it directs to only a compiler. It should be noted that a compiler is known as code per se. Applicants have amended the compiler as it is embedded in "a computer-readable medium". However, Applicants fail to point out or to refer to the specification the support of this claimed subject matter, "computer-readable medium". The specification appears describes only compiler and method. It does not describe "medium". So, this medium is indefinite. A medium also includes a wireless type or an energy type. With this type of medium, it is also known for being "computer-readable medium". On the other hand, claim 20 recites "a program development system for developing an application program for a processor which can execute user-defined machine instructions defined by a user". Claiming transition "for" directs the program development system being intended. It is not being tangible in a hardware system, such as a computer. A system is merely software per se.

Therefore, claims 1-12, 20 remains failed to be statutory claims under 35 USC 101.

Art Unit: 2191

Claims 1-20 direct to a medium, method, and system which are clearly old in the art. A standard compiler includes code for performing lexical, syntax, intermediate code generation, optimization, and then generating the executable code. As it is common in the programming, intrinsic functions are parts of programming instructions. They are stored in the compiler data. When an intrinsic function appears in a program, it has to be checked by the compilation process via syntax analysis. Since, intrinsic function is an optimized code in the compiler database; it would be connected to code generation phase, and optimized before generating executable code. This is **common** and **well known**; otherwise, many built-in functions such as sine, cosine, log, print statement will be never recognized and executed when a user put them in a computer program.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed

Art Unit: 2191

invention. The claimed subject matter that was not described in the specification is “computer-readable medium”. It should be note that the description of “medium” is required in the specification to enable the claims to meet the claim statutory under 35 USC 101. Fail for defining the medium would make the medium be insufficient basis in the specification, thus fail less than 35 U.S.C. 112, first paragraph.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter “computer-readable medium” which applicant regards as the invention.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. The claims 1-12, 20 are rejected under 35 U.S.C 101 because the claimed invention is directed to non-statutory subject matter.

Art Unit: 2191

Claims 1-12 recite Computer-readable medium which is not defined in the specification. A medium which is claimed and not clearly defined in the specification will include a non-statutory medium such as wireless or transmission type.

Claim 20 recites “a program development system for developing an application program for a processor which can execute user-defined machine instructions defined by a user”. However, none of elements in the recited program development system is hardware or hardware tangible. Thus, the system is software per se.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-10, 13-17, 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Loveman, “The DEC High Performance Fortran 90 Compiler Front End”, 1995, IEEE, pages: 46-53.

As per Claim 1: Loveman discloses a compiler front end that anticipates: t

Art Unit: 2191

A-computer-readable medium storing a program for compiling for generating object code from an input source program, the object code including user-defined machine instructions defined by a user, the program for compiling comprising:

analyzing, by a syntax analyzer, whether or not an operation described in the source program conforms to grammatical rules, outputting, by the syntax analyzer, a result of the analysis as an syntax-analysis result, and associating, by the syntax analyzer, the details of the processing operations with the user-defined machine instructions and storing the associated details of the processing operations and user-defined machine instructions in an intrinsic function definition database when detecting that the combination of the instructions is a function definition of the intrinsic function which defines the details of the processing operations associated so as to be converted into the user-defined machine instruction;

See Compiler front end overview, p. 47; and see Syntax analyzer, start at p. 48

generating, by a code generator, machine instructions from the source program based on the syntax-analysis result of the syntax analyzer (It is standardized by compilation techniques; see Compiler front end overview, p. 47); *and*

replacing, by a code optimizer, the machine instructions by the corresponding user-defined machine instructions stored in the intrinsic function definition database in the case where the machine instructions generated by the code generator are associated with the details of the processing operations stored in the intrinsic function definition database

Art Unit: 2191

wherein a statement for explicitly calling the intrinsic function is not beforehand embedded in a body of the input source program since the definitions of the intrinsic function is placed independently of the input source program, and the program for compiling is built only once since changing the user-defined machine instructions does not require for rebuilding the program for compiling.

See Example at p. 51, program pi. It includes a SUM function in the pi program, e.g. pi=sum(rectangle_area). This program is explicitly to call the intrinsic function. When the compiler in the syntax analyzer phase encounters the sum, it will check only the definition, which is the legality of operands and comparability of operands (See Expressions and Symbol table building and symbol promotion, p. 50), then building the symbol table. without embedded in a body of the input source program (such as the program pi), when encountering the intrinsic function (i.e. sum).

As per Claim 2: Loveman discloses The computer-readable medium of claim 1, *the program for compiling further comprising dividing, by a lexical analyzer, the operations described in the source program into tokens, wherein the syntax analyzer analyzes whether or not the tokens conforms to grammatical rules, and analyzes whether or not the combination of the tokens is a function definition of the intrinsic function.* It is standardized in compiler. For example, see Lexer, p. 48; and Expressions, p 50.

As per Claim 3: Loveman discloses *The computer-readable medium of claim 1, wherein the syntax analyzer inputs the definition of the intrinsic function and the details of the processing operations of the intrinsic function from an intrinsic function information file*

Art Unit: 2191

different from the source program. It is standardized in compiler. For example, see Expressions and Symbol table building and symbol promotion, p. 50.

As per Claim 4: Loveman discloses *The computer-readable medium of claim 1, wherein the definition of the intrinsic function includes information of parameter types and an identification name*.

As per Claim 5: Loveman discloses *The computer-readable medium of claim 2, wherein the definition of the intrinsic function includes information of parameter types and an identification name* (for example, sum(), or set of FORTRAN mathematical intrinsics).

As per Claim 6: Loveman discloses *The computer-readable medium of claim 3, wherein the definition of the intrinsic function includes information of parameter types and an identification name* (for example, sum(), or set of FORTRAN mathematical intrinsics).

As per Claim 7: Loveman discloses *The computer-readable medium of claim 1, wherein in the intrinsic function definition database, plural kind of details of the processing operations can be defined for one intrinsic function* (for example, sum(), or set of Fortran mathematical intrinsics discussed in Utility Framework, p. 48).

As per Claim 8: Loveman discloses *The computer-readable medium of claim 2, wherein in the intrinsic function definition database, plural kind of details of the processing operations can be defined for one intrinsic function* (set of Fortran mathematical intrinsics, and Run-time Libraries, discussed in Utility Framework, p. 48).

As per Claim 9: Loveman discloses *The computer-readable medium of claim 3, wherein in the intrinsic function definition database, plural kind of details of the processing*

Art Unit: 2191

operations can be defined for one intrinsic function (set of Fortran mathematical intrinsics, and Run-time Libraries, discussed in Utility Framework, p. 48).

As per Claim 10: Loveman discloses *The computer-readable medium of claim 4, wherein in the intrinsic function definition database, plural kind of details of the processing operations can be defined for one intrinsic function* (set of Fortran mathematical intrinsics, and Run-time Libraries, discussed in Utility Framework, p. 48).

As per claims 13, 20: Claims 13, and 20 have the same functionality of claim 1. See rationale addressed in the rejection of claim 1.

As per claims 14-17: Claims 14-17 have the same functionality that is claimed in claims 2-10. See rationale addressed in the rejection of claims 2-10.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2191

12. Claims 11-12, 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loveman, "The DEC High Performance Fortran 90 Compiler Front End", 1995, IEEE, pages: 46-53.

As per Claim 11: Loveman discloses intrinsic function can be described by FORTRAN language, does not disclose *the processing operations of the intrinsic function can be described by C language*.

However, C language is only changing in size or shape of a programming language, such as from FORTRAN to another language, or making adjustable of FORTRAN to C that does not present patentability. See MPEP 2144.

It would be obvious to an ordinary in the art to make a change or an adjustment in view of a given programming language to another if either language does the same.

As per claim 18: Claim 18 has the same functionality of claim 11. See rationale addressed in the rejection of claim 11.

As per Claim 12: Loveman describes intrinsic function as a runtime built-in function. Loveman does not mention the *intrinsic function can be described by hardware description language*.

However, describing *intrinsic function* from one language to *hardware description language* is only changing in size or shape of a programming language. See MPEP 2144.

It would be obvious to an ordinary in the art to make a change or an adjustment in describing a given intrinsic function from any language if either language can perform is function.

Art Unit: 2191

As per claim 19: Claim 19 has the same functionality of claim 12. See rationale addressed in the rejection of claim 12.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted T. Vo whose telephone number is (571) 272-3706. The examiner can normally be reached on 8:00AM to 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Y. Zhen can be reached on (571) 272-3708.

The facsimile number for the organization where this application or proceeding is assigned is the Central Facsimile number ~~571-273-8300~~.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/807,374
Art Unit: 2191

Page 12

TTV
September 05, 2008

/Ted T. Vo/
Primary Examiner, Art Unit 2191